

WHAT WE CLAIM IS:

1. A pneumatic tire having a carcass of at least one layer, said carcass having a pair of ends engaged with a pair of bead cores on both sides with each of the ends being turned up outwardly from an inner side around each of the pair of bead cores, an inner liner made of a first rubber composition disposed radially inside of the carcass, and a rubber layer disposed between said carcass and said inner liner;

the rubber component of said first rubber composition consisting essentially of 60 to 95% by weight of a halogenated butyl rubber and 5 to 40% by weight of a regular butyl rubber, said regular butyl rubber being an isobutylene-isoprene copolymer rubber, and

said rubber layer being made of a second rubber composition including a diene rubber, sulfur and a sulfenamide vulcanization accelerator;

the amount of sulfur of said second rubber composition being represented by the equation (I):

$$2 + 0.05A \leq x \leq 5 + 0.05A \quad (I)$$

wherein X is the amount of sulfur in parts per hundred of the diene rubber of said rubber layer and A is the percentage by weight of the regular butyl rubber in the rubber component.

2. The tire of Claim 1, wherein the thickness of said inner liner satisfies the equation (II):

$$0.2 \leq \frac{C}{B} < 1 \quad (II)$$

wherein B is a distance in millimeters from the radially inside surface of said inner liner to the steel cord in said carcass and C is the thickness in millimeters of said inner liner, provided that $B \leq 5$ millimeters, and the equation (III):

$$0.05 \leq \frac{C}{D} \leq 0.5 \quad (III)$$

wherein D is a thickness in millimeters of the thinnest thickness of a laminate rubber constituting the tire, and C is as defined above.

3. The tire of Claim 1, wherein said inner liner is provided so that the edges thereof are located on a level radially below the position of a rim flange.

4. The tire of Claim 1, wherein said diene rubber is at least one member selected from the group consisting of a natural rubber, an isoprene rubber, a styrene-butadiene rubber and a butadiene rubber.

5. The tire of Claim 1, wherein said first rubber composition includes an amount of sulfur less than that contained in said second rubber composition.

6. A pneumatic tire having a carcass of at least one layer, said carcass having a pair of ends engaged with a pair of bead cores on both sides with each of the ends being turned up outwardly from an inner side around each of the pair of bead cores, an inner liner made of a first rubber composition disposed radially inside of the carcass, and a rubber layer disposed between said carcass and said inner liner;

the rubber component of said first rubber composition consisting essentially of 60 to 95% by weight of a halogenated butyl rubber and 5 to 40% by weight of a regular butyl rubber, said regular butyl rubber being an isobutylene-isoprene copolymer rubber, and

said rubber layer being made of a second rubber composition including a diene rubber, sulfur, a sulfenamide vulcanization accelerator and a reinforcing ingredient, said reinforcing ingredient being carbon black;

the amount of sulfur of said second rubber composition being represented by the equation (I):

$$2 + 0.05A < x < 5 + 0.05A \quad (I)$$

wherein X is the amount of sulfur in parts per hundred of the diene rubber of said rubber layer and A is the percentage by weight of the regular butyl rubber in the rubber component.

7. The tire of Claim 6, wherein said diene rubber in said second rubber composition is a member selected from the group consisting of natural rubber, isoprene rubber and butadiene rubber.